New York Oct 9th 1856

Dear Sir

I am very anxious to learn whether the plan proposed for cleaning out the Gold Separator, daily, has produced as good results as we have obtained here, and will feel obliged if you will inform me on this subject. When I was at the Mint last, your workman told me that he was obliged to draw off the residue at 12 o'clock on account of the stopping of the Engine, and that then it was returned to the mill and worked until finished. This will doubtless make richer sweep than if completed at once, which is the case here. When I formerly burned the residue and then returned it to the mill, the sweep was richer than it now is. I am sure that you will be happy to do all in your power to work the apparatus to the best advantage, and believe that you will excuse me for suggesting a plan by which you will be able to make your sweep as poor as ours. I would propose, that you allow the workmen to supply the apparatus as usual until 10 o'clock daily, and not add any more sweep, until the first is washed clean and the

residue removed for fluxing, or left in the mill if more sweep is to be added in the afternoon, and then cleaned out at night, after running about 2 hours after the last of the sweep has been added.

By stopping the addition of sweeps at 10 o'clock and continuing the supply of water until 12 o'clk the residue will then be so small that it will not interfere with starting the mill, after the dinner has stopped and started again. And then on commencing to feed again until 3 o'clock, and then supplying water only until 5. o'clk, the residue will be in a good condition to be removed, entirely.

The whole amount of gold & Silver separated from sweeps in this office during the month of Sept was 719.89 g. Of this 578.13 g was obtained from the hopper (80.36 % pr.ct. of the whole) 132.88 g Kings from the residue (18.4) pr.ct.) and 8.38 g from the amalgam (1.17) pr. ct.) The daily residue from the bottom of the mill was saved until the end of the month, and then treated with dilute SO^3 to remove iron, and dried. The whole residue for the month, when thus treated and dried, weighed only $33\frac{15}{16}$ avordupois, and this then fluxed with about its weight of Soda ash and a little nitre gave 132.88 g gold & silver, which equals 4 oz 0 each pound, showing that it had been concentrated so as to contain one quarter of its weight in pure metal, and still only 8.38 g amalgam was obtained.

One of my machines has been recently erected at the Park mine in Ga, and the first experiment was made on the tailings from the Eureka amalgamators which they had previously in use. In two and a half days they extracted gold to the value of $110. and left sufficient in the apparatus to charge the mercury. These tailings were formerly thrown away, but the proprietors inform me that they can now take out 10 times more gold from the tailings with my apparatus, than they could from the original ore with the Eureka amalgamator. This seems almost fabulous, but they can have no object in making a false statement, and the report has been verified by another gentleman who witnessed the above experiment, and in the strength of it, has ordered one of my apparatus for another mine in Alabama. I have not mentioned the above facts in a spirit of boasting, but simply because as a friend I presumed that you would be glad to hear of its successful operation in the mines.

I feel sanguine that I have made a good

and useful invention, and know that my success depends a great deal upon the results obtained at the Mint, under your direction. For this reason I am anxious that you should obtain all the advantages of which the apparatus is capable, and shall then be contented to rest upon its merits.

Having devoted a large portion of my time for the last two years, to this subject, and suffered greatly from the intense mental anxiety this labor has occasioned, I trust you will excuse the length of this, and favor me with a reply at your earliest convenience.

Yours very truly

Edward H. Kent.

Prof. Jas. C. Booth
U. S. Mint
Phila.

Oct 4th 1852
Edw. H. Kent
Ass't Assay